

THURSDAY, AUGUST 30, 1877

THE ZOOLOGICAL RECORD

The Zoological Record for 1875; being Volume Twelfth of the Record of Zoological Literature. Edited by Edward Caldwell Rye, F.Z.S., M.E.S., &c. (London: John Van Voorst, Paternoster Row, 1877.)

ZOOLOGISTS, it must be said, are a somewhat ungrateful set of men. There can be no question of the extreme value to them of "The Zoological Record," and yet they allow, as is notorious, the Association which was formed to continue that useful publication to lead a precarious existence, dependent on the charity of various other scientific bodies. This is not creditable to the zoologists of our own country, nor, though in a less degree, to those of our colonies, past and present. Those of the United Kingdom are unquestionably wealthy as a class, but their wealth is very unequally divided. Many, and among them we are glad to say are some of the best, are amateurs who follow the study simply for their own pleasure, and are sufficiently blessed with this world's goods. Yet they see that many of their brethren have need, without taking any trouble to help them. The number of "literary and scientific" institutions, museums, reading-rooms, and the like, throughout the country, is very great, and there can be scarcely any of them that does not possess one or more members who take an interest in zoological pursuits. But how few of these institutions and so forth, are there on whose bookshelves "The Zoological Record" is to be found! Surely but a very slight amount of exertion is required on the part of such members to get this work taken in by the institution to which they belong? As a rule the library-committees of such bodies are not averse to books of reference, and here is one that is absolutely necessary to every student of or worker in zoology. It is no secret that the Zoological Record Association has the greatest difficulty in "making ends meet," and a very moderate amount of the support we have above indicated would go far to remove the difficulty, and to prevent the possibility of indelible disgrace accruing to the zoologists of this country, by the cessation of this useful annual.

The volume for 1875, which has just been issued, forms the twelfth of the series, and maintains the high character of its predecessors. It must be very satisfactory to Mr. Rye, as editor, to find himself supported by so strong a band of Recorders. Yet the personnel is, with one exception, entirely changed from that which was first enlisted by Dr. Günther. The exception is Dr. Eduard von Martens, who, with truly Teutonic tenacity, continues his labours on Molluscs and Molluscoidea—nay more, since he first began, he has added the Crustaceans to his cares. The Mammals are in charge of Mr. Alston; the Birds have fallen to the lot of Mr. Salvin. Reptiles and Fishes are taken by Mr. O'Shaughnessy; Arachnids and Myriopods by Mr. Pickard-Cambridge. The editor himself bears the brunt of the battle; not only does he (as becomes one of the staff of the *Entomologists' Monthly Magazine*) look after the Insects as a general subject, but he also takes specially the orders, *Coleoptera*, *Hymenoptera*, *Diptera*, and *Rhynchota*—leaving the *Lepidoptera*

to Mr. Kirby and the *Neuroptera* and *Orthoptera* to Mr. McLachlan. Dr. Lütken sweeps all the remaining groups into his net. The services of each of these gentlemen deserve the most conspicuous acknowledgment. Breaking stones on a road is the common expression for employment which combines the dullest and hardest handiwork with the lowest wages. Where mental labour is concerned it may be paralleled by the vocation of a Zoological Recorder. His task is certainly not more easy or exhilarating and he is not required at a higher rate. There is scarcely one of the whole of these gentlemen, we are convinced, who does not enter upon or continue his occupation simply because he conceives it to be his duty—and his chief reward must be the satisfaction he receives from discharging it to the best of his ability—for it were absurd to call the miserable pittance, which is all that the Association can afford to dole out to him, any remuneration for the hours of weariness which the due execution of the Records requires.

So strongly do we feel the self-denying nature of the work done by the Recorders that we cannot find it in our heart to criticise any portion of it. There is, we think, and it is only to be expected that such should be the case, a marked difference in the execution of the several Records, and one that is not to be accounted for by experience or want of it on the part of their authors. The worst will bear favourable comparison with anything of the kind published elsewhere, and the accuracy of the references is quite beyond praise—for we could name at least one work of similar nature to consult which is often to follow a guide who either did not know or had forgotten the path. More than this—despite the difference of treatment of which we have spoken—there is a wholeness about the work that bespeaks an eminently able editor.¹

The index to the genera and sub-genera recorded as new in this volume includes nearly one thousand names, and the excellent plan (first introduced, we believe, by the late Mr. Crotch) of indicating those names which have been already preoccupied in zoology is still continued. Taking a most merciful view of what constitutes a synonym, the editor has yet to mark fifty-nine of these names (thereby implicating thirty-seven authors) as used before—a far greater proportion than there of course ought to be. Some zoologists in conferring new names evidently pay very little attention to their predecessors' labours, and hence scientific nomenclature is encumbered by these unnecessary terms. One gentleman, indeed, seems oblivious of his own success in genus-making, and apparently has bestowed the same name on what he considers to be two distinct genera within a dozen pages of the same work! This is M. Mulsant, and he stands out as the greatest sinner in this respect. By himself he is guilty of making three synonyms, and in conjunction with M. Rey of three more. Messrs. Chambers, Schneider and Signoret are each responsible for four, Messrs. Chapuis and Reuter, for three, and Messrs. Boisduval, Chaudoir, Harvey and C. G. Thomson for two. The twenty-five who have committed this crime only once we need not name, and of course it is possible that in some cases their position is defensible, though in reality little is really

¹ Mr. Rye is so uncommon an editor that we believe he will be grateful to us for having a misprint detected—and it is the only one of importance that, after some study, we are able to point out. *Cyrrhopthalma* (p. 259) should surely be *Cyphopthalma*.

to be urged on behalf of so confusing a practice. When a man has a new genus to describe it should be his first duty to take care that he does not apply to it a name that has been proposed before, and it is not generally difficult to find this out. Of course the punishment ultimately falls on the offender's own head, for in these days somebody is sure to discover the blunder, and generally before long, but meanwhile the inconvenience may be and often is not inconsiderable.

In conclusion, we have but to wish the Zoological Record Association an increasing sale for their useful annual, and to express our thanks to Mr. Rye and his assistants.

ARCTIC METEOROLOGY

Scientific Results of the United States Arctic Expedition Steamer "Polaris," C. F. Hall commanding. Vol. I. Physical Observations. By Emil Bessels, Chief of the Scientific Department, U.S. Arctic Expedition.

THE United States Government has, with its accustomed liberality to science, published in a bulky volume of about 1,000 pages, under the auspices of the National Academy of Sciences, the results of the various observations of meteorology, astronomy, and magnetism, made by the scientific staff of the *Polaris* during the expedition to the Arctic regions in 1871-73. In the present notice we shall refer only to the barometric observations, and the discussion of them, which occupy altogether forty-three pages of the volume before us.

The barometric observations were made hourly at Polaris Bay, $81^{\circ} 36'$ lat. N., $62^{\circ} 15'$ long. W., from November, 1871, to August, 1872, and at Polaris House from November, 1872, to May, 1873, and they are published *in extenso* in this volume. These observations we have examined, and it is evident that they have been made with great care, and that, taken as a whole, they form one of the most valuable repositories of facts which we possess illustrative of the meteorology of the Arctic regions. The errors which do occur are of that class which may be regarded as "inevitable" in such a record of observations, viz., typographical errors, transposed or changed figures, and personal errors of observation which are well known to meteorologists, and admit of easy detection and correction.

On turning to the table of the mean hourly values for the different months (p. 18) calculated from the data just mentioned, we are at once struck with the extraordinary character of the hourly curves as disclosed by these figures, inasmuch as they show a repeated abruptness of change and a capriciousness of form which certainly could not be accepted unless on the clearest proof that they represent well-ascertained facts.

In examining the mean hourly values for December, 1871, the first month for which complete observations were made, it is seen that the calculations made from the individual observations are all correct. If we, however, take the trouble to critically examine the observations themselves from hour to hour, it is seen that there occur two uncorrected readings of 29'371 and 29'777 inches, instead of 29'571 and 29'577 inches, and twelve uncorrected readings in which the observers, as occasionally takes place with the best observers, have read the instru-

ment 0'050, 0'100, or 0'150 inch either too high or too low. Correcting, then, these observations, and calculating afresh the hourly values, we obtain the result given in the following table (columns A.), to which are added the hourly values as printed in the volume (columns B.) :—

	A.	B.		A.	B.		A.	B.
hour.	inches.	inches.	hour.	inches.	inches.	hour.	inches.	inches
midnight.	29'759	29'759	8 A.M.	29'754	29'749	4 P.M.	29'749	29'749
1 A.M.	760	760	9 "	752	749	5 "	750	748
2 "	765	765	10 "	751	752	6 "	750	750
3 "	764	764	11 "	749	756	7 "	750	750
4 "	761	761	noon.	743	740	8 "	745	741
5 "	760	756	1 P.M.	742	740	9 "	738	743
6 "	760	757	2 "	744	744	10 "	735	735
7 "	759	756	3 "	748	750	11 "	734	734

Thus, from not submitting the observations to a preliminary critical examination before calculating the averages, half of the resulting averages are faulty, and a monthly curve is obtained which completely fails to represent the physical datum for the ascertaining of which this elaborate set of observations were carried on in all the rigours of an arctic winter.

We are the more desirous of urging this matter on the attention of meteorologists, because the same method of hasty and ill-advised discussion of barometrical observations is widely practised; and, it need scarcely be added, results in the publication of generally accepted averages, which more than anything else are seriously obstructive to any real progress in this intricate but vitally important branch of physical inquiry.

The observations for June, 1872, are free from these errors of observation, but notwithstanding this the hourly monthly values which have been deduced from them do not appear to be satisfactory. On calculating, then, the monthly values from the observations of this month, it turns out that only one of the twenty-four means is correct, the other twenty-three being more or less seriously in error. It is to be regretted that the hourly means for the other months of the period also are so much and so frequently in error, those for December, 1872, for instance, giving a curve which in its essential points is the reverse of the correct one, that the whole of the elaborate discussion of the barometric observations made by the scientific staff of the *Polaris* Arctic Expedition must be rejected.

The averages for the different months have been deduced in two ways, viz., from the twenty-four hourly means, and from the thirty or thirty-one daily means of the month. These two sets of averages would of course agree if the calculations were correct. In the printed tables they are made to agree even to the thousandth part of an inch, by simply placing the calculated average of one column under both columns. Thus the monthly average of June, 1872, is, as deduced from the twenty-four printed hourly means 29'888 inches, and as deduced from the thirty printed daily means 29'860 inches, but in the tables 29'888 inches is printed as the mean of both columns. It is thus evident that the reduction of this very important series of barometric observations requires yet to be made—a work which we hope will be yet undertaken, particularly since the summer and the winter means we have computed seem to suggest important connections between these arctic barometric curves and the curves of lower latitudes.